



Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

VI.—NOTES ON PHILOLAUS.

In Philolaus fragment 6 (Diels) we read: ἐπεὶ δὲ ταὶ ἀρχαὶ ὑπάρχον οὐχ ὁμοῖαι οὐδ' ὁμόφυλοι ἔσσαι, ἤδη αἰδύνατον ἦς κα αὐταῖς κοσμηθῆναι, εἰ μὴ ἀρμονία ἐπεγένετο ὥτινιῶν ἅδε τρόπῳ ἐγένετο. τὰ μὲν δὲν ὁμοῖα καὶ ὁμόφυλα ἀρμονίας οὐδὲν ἐπεδέοντο, τὰ δὲ ἀνόμοια μηδὲ ὁμόφυλα μηδὲ ισολαχῇ ἀνάγκα τὰ τοιαῦτα ἀρμονία συγκεκλείσθαι, οἷα μέλλοντι ἐν κόσμῳ κατέχεσθαι. Instead of ισολαχῇ, a conjecture of Meineke's, the MSS show ισοταχῇ. This, however, is so clearly inept that nobody has been found to defend it. Heeren read ισοτελῇ, as if on MS authority; but of recent years all appear to acquiesce in the suggestion made by Meineke. Diels renders ισολαχῇ *das gleich Verteilte*, and Newbold in an interesting article on Philolaus recently published (*Archiv für Geschichte der Philosophie*, XIX., 187) says; "Etymologically it should mean 'equally allotted' or 'equally apportioned', and this exactly expresses the relation which the component parts of a figure bear to the homologous components of another which is similar to it. Whatever the ratio which an element of one bears to its homologous element in the other, that same ratio is repeated between every pair of homologous elements,—the second figure is 'equally apportioned' as regards the first."

It is not my intention at present to write a critique of Newbold's suggestive interpretation of *ἄπειρα* and *περαίνοντα* in Philolaus. I have offered one explanation of their significance (*Πέραις and Ἄπειρον in the Pythagorean Philosophy*, *Archiv für Geschichte der Philosophie*, XIV., 384 foll.), and am fully aware how hazardous it is, in view of the great variety of views on matters Pythagorean presented even by our ancient authorities, to declare that any application of the notion, which is not self-contradictory, may not have been among others in the mind of Philolaus. But I venture to say that if there had been a blank space in the MSS in the place of ισοταχῇ no one would ever have thought of ισολαχῇ. The tenor of the fragment in question and of fragments 1 to 5 offers not the slightest support to such a reading.

Fragments 1 and 2 assert that the world is an *ἀρμονία* of *ἄπειρα* and *περαίνοντα*. Fragment 5 introduces the terms *ἀριθμὸς περισσός* and *ἄρτιος* (apparently as the equivalents of *περαίνοντα* and *ἄπειρα*) together with the *ἀρτιοπέριττον* as their *ἀρμονία*. Proceeding to fragment 6, we find stated the reason for the need of *ἀρμονία*. It is because the principles are reciprocally exclusive and hence cannot combine of themselves to make a world: *τὰ δὲ ἀνόμοια μηδὲ ὁμόφυλα μηδὲ ἰσοταχῇ ἀνάγκα τῇ τοιαύτῃ ἀρμονίᾳ συγκεκλείσθαι, οἷα μέλλοντι ἐν κόσμῳ κατέχευσθαι*. Meineke's *ἰσολαχῇ* is as clearly inept as *ἰσοταχῇ*: apart from the fact that the word does not occur elsewhere, it is impossible in the context. His other suggestion, *ἰσοπαλῇ*, *equal*, which has been received with scant favor, would suit far better. What is needed is a word which, like *ἀνόμοια* and *ὁμόφυλα*, shall suggest the Pythagorean *συστοιχίαι*, to which allusion is clearly made. In a review of Newbold's *Philolaus* (*Journal of Philosophy, Psychology, and Scientific Methods*, III., 583 foll.) I therefore proposed to read *σύστοιχα*; but *ἰσολαχῇ* would seem to be paleographically more probable. Hence I would now suggest *ἰσοταγῇ* for the MS *ἰσοταχῇ*. It not only contains the desiderated reference to principles of the same rank and class, but it is also probable paleographically. Like Meineke's *ἰσολαχῇ*, *ἰσοταγῇ* nowhere occurs; but, unlike it, it has extant a congener in *ὁμοταγῆς*, much in use among mathematicians to denote what is *ranged in the same row or line*. That the two words could well be synonyms is proved by the case of *ἰσοταγῆς* and *ὁμοταγῆς*.

In fragment 11 (Diels) we read: *νῦν δὲ οὗτος* (sc. *ἀριθμὸς*) *κατὰν ψυχὰν ἀρμόζων αἰσθήσει πάντα γνωστὰ καὶ ποτάγορα ἀλλάλοις κατὰ γνώμονος φύσιν ἀπεργάζεται σωματῶν καὶ σχίζων τοὺς λόγους χωρὶς ἐκάστους τῶν πραγμάτων τῶν τε ἀπείρων καὶ τῶν περαίνοντων*. Boeckh substituted *σωματῶν* for the MS *σωμάτων*. Subsequent editors have rightly followed him; but they have misinterpreted the term, taking it to mean 'embodying', 'conferring corporeality'. Newbold deserves credit for having first publicly directed attention to the required meaning, showing that the context calls for a term, like 'compounding', to contrast with *σχίζων*, 'factoring'. He, however, proposed *συνάπτων*, regarding *σωματῶν* as impossible. I too had been for some time on the same track, though I lay no claim to his interpretation of the *γνώμων*. Consequently I had considered a number of candidates for the place of *σωματῶν*, such as *συνβάλλων*, because of Heraclitus fragment 126 a (Diels, it was 4 a in the first ed.) *κατὰ λόγον δὲ ὥρεων συνβάλλεται ἐβδομάς κατὰ*

σελήνην, διαιρείται δὲ κατὰ τὰς ἄρκτους, a passage closely analogous and probably written under Pythagorean influence; or such as συναίρων (the normal contrary to διαιρείται in the fragment just quoted) because of Plato, Phaedrus 249 B δὲ γὰρ ἄνθρωπον συνίεναι κατ' εἶδος λεγόμενον, ἐκ πολλῶν ἰὸν αἰσθήσεων εἰς ἓν λογισμῷ συναιρούμενον. I am now persuaded, however, that Boeckh's reading is correct, because it lends itself perfectly to the correct interpretation of the passage.

Epicurus was not the first to regard σῶμα as an ἄθροισμα. The notion goes back to Democritus, the contemporary of Philolaus, and beyond him into the shadowy past. In Greek usage σῶμα may stand for an organic body regarded as compounded of its members; for a body of three dimensions (hence, according to ancient conceptions, compound); for a 'body' of persons, a 'body' of writings, a 'body' of proofs or arguments. Similarly σωματίον, like *corpus* in Latin, is used of a book or of a corporation. The adjectives σωματοειδής and σωματώδης follow the meanings of the substantive. The verbs σωματουργεῖν and σωματοποιεῖν, naturally equivalent to σωματοῦν, and the derivative substantives σωματοποιία and σωματοποίησις also have the meaning of organizing and unifying. Cp. Artemidorus IV. 1 οὐδὲ ἐνδέχεται τά γε οὕτως ἀλλήλων κειχωρισμένα σωματοποιεῖν καὶ εἰς ἓν συνάγειν. To be sure, most of these words appear late; but, first, nobody will contend that σῶμα did not naturally have this connotation to the mind of a Greek; and, secondly, the date and authenticity of the fragments attributed to Philolaus are themselves so much a matter of doubt that it would be clearly begging the question to object to σωματῶν bearing this sense at so early a date.

Diog. Laert. VIII. 85 (fragment 1, Diels): ἡ φύσις δ' ἐν τῷ κόσμῳ ἀρμόχθη ἐξ ἀπείρων τε καὶ περαινότων καὶ ὅλος ὁ κόσμος καὶ τὰ ἐν αὐτῷ πάντα. Diels renders thus: "Die Natur ward aber bei der Weltordnung aus Unbegrenztem und Begrenztem zusammengefügt, wie denn auch die ganze Weltordnung und alles in ihr aus diesen beiden besteht." Two points in this rendering at once strike the reader: κόσμος is taken to have two meanings almost in the same breath, and a new predicate has to be supplied in what is regarded as the second clause. The reason for this strange interpretation clearly lies in the phrase ἡ φύσις δ' ἐν τῷ κόσμῳ. These words are, I think, a corruption for ἡ φύσις δὲ τῷ κόσμῳ, arising from a failure of the copyist to note that he was writing Doric. The construction thus becomes the familiar periphrasis ἡ φύσις τῷ κόσμῳ = ὁ

κόσμος; cp. fragment 2, quoted below. Diels, failing to see this, has failed also to reproduce the force of *καὶ ὅλος . . . πάντα*, which means "not only the world as a whole (which has already been said, since *ἡ φύσις τῷ κόσμῳ* = *ὁ κόσμος*), but also (and this receives emphasis because not before mentioned) all that is therein." Cp. fragment 2, quoted below.

This use of *καὶ . . . καὶ*, in which the second member receives especial emphasis, is of course common everywhere. It is somewhat curious, therefore, that Diels has failed to render it correctly also in fragment 11: ἴδοις δέ κα οὐ μόνον ἐν τοῖς δαιμονίοις καὶ θείοις πράγμασι τὴν τῷ ἀριθμῷ φύσιν καὶ δύναμιν ἰσχύουσιν, ἀλλὰ καὶ ἐν τοῖς ἀνθρωπικοῖς ἔργοις καὶ λόγοις πᾶσι παντᾶ καὶ κατὰ τὰς δημιουργίας τὰς τεχνικὰς πάσας καὶ κατὰ τὴν μουσικάν. His rendering is, "sowie auch in allen technischen Verrichtungen und in der Musik." The meaning is clearly, I think, 'not only in technical procedure in general (compare *πάσας* here with *ὅλος* in fragment 1), but particularly in music' (where first the Pythagoreans had successfully applied mathematics to empirical science).

The passage just quoted from fragment 11, suggests another observation. In fragment 2 we read ἐπεὶ τοίνυν φαίνεται οὗτ' ἐκ περαινότων πάντων ἔντα οὗτ' ἐξ ἀπείρων πάντων, ὅλον τὰρα ὅτι ἐκ περαινότων τε καὶ ἀπείρων ὁ τε κόσμος καὶ τὰ ἐν αὐτῷ συναρμόχθη. δηλοῖ δὲ καὶ τὰ ἐν τοῖς ἔργοις. The last clause, Diels in his first edition rendered, "Damit stimmt auch die Beobachtung an den Werken überein." In the second edition he substitutes "Aeckern" for "Werken", presumably out of regard for the suggestion of Newbold, who had in the interim developed an elaborate theory of the *περαίνοντα* and *ἄπειρα*, based in part on the supposition that *ἔργα* here means *fields* or *lands*. A comparison of fragments 2 and 11 should have prevented him from falling into this error. As τὰ δαιμόνια καὶ θεία πράγματα means *things divine*, so τὰ ἀνθρωπικὰ ἔργα means simply *things human*. The addition of the *λόγοι* does not, I think, make against this view, it being only padding, going along with *πᾶσι παντᾶ* to complete the picture and suggested by the ubiquitous pair *λόγῳ*·(*·*)*ἔργῳ*. In fragment 2 also, I believe, *ἔργα* means *things*, not *fields*.

Fragment 5: ὁ γὰρ μὲν ἀριθμὸς ἔχει δύο μὲν ἴδια εἶδη, περισσὸν καὶ ἄρτιον, τρίτον δὲ ἀπ' ἀμφοτέρων μειχθέντων ἀρτιπέριτον. Instead of *μειχθέντων*, which yields a loose construction, I would propose *μειχθέν τὸ*, referring to the familiar construction *μειχθῆναι ἐξ*, e. g.

Plato, Repub. 548 C, Protag. 320 D., etc. Instead of $\epsilon\acute{\xi}$, though rarely, $\alpha\pi\acute{o}$ occurs, as e. g. Hippocrates, Aër., 285 [Manetho], 6. 322 τόσσοι ἀπ' ἀλλοίων μικτοὶ τελέθουσι τοκήων.

In closing these scattered notes it may be well to draw attention to a misprint in fragment 2 (Diels, Ed. II.), p. 240, l. 6, where the text should read τὰ μὲν γὰρ αὐτῶν ἐκ περαινόντων κ. τ. λ.

WESLEYAN UNIVERSITY.

W. A. HEIDEL.